

WHAT IS CLAIMED:

1           1.     A memory, comprising:  
2           an address bus operable to receive an external address during a data-transfer  
3 cycle;  
4           an address counter operable to generate an internal address during the  
5 <sup>read/write</sup> data-transfer cycle;  
6           an address decoder coupled to the address counter;  
7           a comparator coupled to the address bus and operable to compare the  
8 external address to a value; and  
9           a control circuit coupled to the comparator and operable to enable a data  
10 transfer based on the relationship between the external address and the value.

1           2.     The memory of claim 1 wherein:  
2           the address bus is operable to receive an external column address; and  
3           the address counter is operable to generate an internal column address.

1           3.     The memory of claim 1 wherein:  
2           the address bus is operable to receive an initial external address and a  
3 subsequent external address; and  
4           the address counter is operable to store the initial external address and to  
5 generate the internal address by varying the stored initial external address.

1           4.     The memory of claim 1 wherein:  
2           the address bus is operable to receive an initial external address and a  
3 subsequent external address; and  
4           the address counter is operable to store the initial external address, to  
5 generate an initial internal address equal to the stored initial external address, and to  
6 generate a subsequent internal address by varying the stored initial external address.

1           5.     The memory of claim 1 wherein:  
2           the address bus is operable to receive an initial external address and a  
3 subsequent external address; and

4           the address counter is operable to store the initial external address, to  
5 generate an initial internal address equal to the stored initial external address, and to

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6 generate a subsequent internal address equal to the subsequent external address by  
7 varying the stored initial external address.

1 6. The memory of claim 1, further comprising:  
2 a data buffer;  
3 wherein the comparator is coupled to the address counter and is operable to  
4 compare the external address to the internal address; and  
5 wherein the control circuit is coupled to the data buffer and is operable to  
6 enable the data buffer if the external address equals the internal address and to  
7 disable the data buffer if the external address does not equal the internal address.

1 7. The memory of claim 1, further comprising:  
2 a data buffer;  
3 a storage circuit operable to store a predetermined address;  
4 wherein the comparator is coupled to the storage circuit and is operable to  
5 compare the external address to the predetermined address; and  
6 wherein the control circuit is coupled to the data buffer and is operable to  
7 enable the data buffer if the external address does not equal the predetermined  
8 address and to disable the data buffer if the external address equals the  
9 predetermined address.

1 8. The memory of claim 1, further comprising:  
2 a data buffer;  
3 wherein the comparator is coupled to the address counter and is operable to  
4 compare the external address to the internal address; and  
5 wherein the control circuit is coupled to the data buffer and the address  
6 counter and is operable to enable the counter if the external address equals the  
7 internal address and to disable the counter if the external address does not equal the  
8 internal address.

1 9. The memory of claim 1, further comprising:  
2 a data buffer;  
3 a storage circuit operable to store a predetermined address;  
4 wherein the comparator is coupled to the storage circuit and is operable to  
5 compare the external address to the predetermined address; and

6 wherein the control circuit is coupled to the data buffer and the address  
7 counter and is operable to enable the counter if the external address does not equal  
8 the predetermined address and to disable the counter if the external address equals  
9 the predetermined address.

1 10. The memory of claim 1 wherein the data-transfer cycle comprises a  
2 read cycle.

1 11. A memory, comprising:  
2 a data buffer operable to receive and hold data during a data transfer;  
3 an address counter operable to generate an internal address during the data  
4 transfer;  
5 a programmable storage circuit operable to store a value during the data  
6 transfer; and  
7 a control circuit coupled to the storage circuit and the data buffer and operable  
8 to disable the data transfer in response to the value.

1 12. The memory of claim 11 wherein the control circuit is operable to  
2 disable the address counter in response to the value.

1 13. The memory of claim 11 wherein the control circuit is operable to  
2 disable the data buffer in response to the value.

1 14. The memory of claim 11 wherein:  
2 the programmable storage circuit comprises a programmable counter operable  
3 to generate a count by incrementing or decrementing the stored value during the  
4 data transfer; and  
5 wherein the control circuit is operable to disable the data transfer when the  
6 count equals a predetermined value.

1 15. The memory of claim 11, further comprising:  
2 wherein the programmable storage circuit is operable to store an address  
3 value;  
4 a comparator coupled to the address counter, the storage circuit, and the  
5 control circuit and operable to compare the internal address to the address value;  
6 and

7 wherein the control circuit is operable to disable the data transfer when the  
8 internal address has a predetermined relationship to the address value.

1 16. The memory of claim 11 wherein the address counter is operable to  
2 generate an internal column address.

1 17. The memory of claim 11 wherein the address counter is operable to  
2 store an initial internal address and to generate a subsequent internal address by  
3 incrementing or decrementing the stored initial internal address.

1 18. An electronic system, comprising:  
2 a data input device;  
3 a data output device; and  
4 a computer circuit coupled to the data input and output devices and including  
5 a processor and a memory circuit coupled to the processor, the memory circuit  
6 including,  
7 an address bus operable to receive an external address from the  
8 processor during a data transfer between the processor and the memory,  
9 an address counter operable to generate an internal address during the  
10 data transfer,  
11 an address decoder, and  
12 a multiplexer coupled to the address bus, the address counter, and the  
13 address decoder and operable to couple either the external address or the  
14 internal address to the address decoder during the data transfer.

1 19. The electronic system of claim 18 wherein the memory further includes:  
2 wherein the multiplexer is operable to couple the internal address to the  
3 address decoder during the data transfer;  
4 a comparator coupled to the address bus and the address decoder and  
5 operable to compare the external address to the internal address; and  
6 a control circuit coupled to the comparator and operable to enable the data  
7 transfer if the external address equals the internal address and to disable the data  
8 transfer if the external address does not equal the internal address.

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- 1           20.    An electronic system, comprising:  
2           a data input device;  
3           a data output device; and  
4           a computer circuit coupled to the data input and output devices and including  
5           a processor and a memory circuit coupled to the processor, the memory circuit  
6           including,  
7                 an address counter operable to generate an internal address during a  
8                 data transfer between the processor and the memory;  
9                 a storage circuit operable to receive and store a value from the  
10                processor before or during the data transfer; and  
11                a control circuit coupled to the storage circuit and operable to disable  
12                the data transfer in response to the stored value.
- 1           21.    The electronic system of claim 20 wherein:  
2           the storage circuit comprises a programmable counter operable to generate a  
3           count by incrementing or decrementing the stored value during the data transfer; and  
4           wherein the control circuit is operable to disable the data transfer when the  
5           count equals a predetermined value.
- 1           22.    The electronic system of claim 20 wherein:  
2           the value stored in the storage circuit comprises an address value;  
3           the memory further includes a comparator coupled to the address counter, the  
4           storage circuit, and the control circuit and operable to compare the internal address  
5           to the address value; and  
6           the control circuit is operable to disable the data transfer when the internal  
7           address has a predetermined relationship to the address value.
- 1           23.    A method, comprising:  
2           receiving a first address;  
3           generating a second address;  
4           comparing the first address to the second address; and  
5           transferring data to or from a storage location residing at the second address if  
6           the first address has a predetermined relationship to the second address.

1           24.    The method of claim 23, further comprising disabling the transferring of  
2 data to or from the storage location if the first address does not have the  
3 predetermined relationship to the second address.

1           25.    The method of claim 23 wherein:  
2           receiving a first address comprises receiving with a memory circuit a first  
3 address that is generated outside of the memory circuit; and  
4           generating a second address comprises generating a second address inside  
5 of the memory circuit.

1           26.    The method of claim 23 wherein transferring data comprises:  
2           transferring data to or from the storage location if the first address equals the  
3 second address; and  
4           disabling the transfer of data to or from the storage location if the first address  
5 does not equal the second address.

1           27.    A method, comprising:  
2           generating a first address;  
3           comparing the first address to a predetermined value; and  
4           transferring data to or from a storage location residing at the second address if  
5 the first address has a predetermined relationship to the predetermined value.

1           28.    The method of claim 27, further comprising disabling the transferring of  
2 data to or from the storage location if the first address does not have the  
3 predetermined relationship to the predetermined value.

1           29.    The method of claim 27 wherein generating a first address comprises  
2 generating the first address inside of a memory circuit.

1           30.    The method of claim 27 wherein generating a first address comprises  
2 generating the first address outside of a memory circuit.

1           31.    The method of claim 27 wherein transferring data comprises:  
2           transferring data to or from the storage location if the first address does not  
3 equal the predetermined value; and

4           disabling the transfer of data to or from the storage location if the first address  
5 equals the predetermined value.

1           32.    The method of claim 27, further comprising:  
2           wherein generating a first address comprises generating the first address  
3           inside of a memory circuit; and  
4           receiving with the memory circuit a second address from outside of the  
5           memory circuit.

1           33.    The method of claim 27, further comprising loading the predetermined  
2           value into a memory that includes the storage location.

1           34.    A method, comprising:  
2           loading a memory with a count value;  
3           generating a first address inside of the memory;  
4           incrementing or decrementing the count value;  
5           comparing the count value to a predetermined value; and  
6           transferring data to or from a storage location residing at the first address if the  
7           count value has a predetermined relationship to the predetermined value.

1           35.    The method of claim 34, further comprising disabling the transferring of  
2           data to or from the storage location if the first address does not have the  
3           predetermined relationship to the predetermined value.

1           36.    The method of claim 34 wherein transferring data comprises:  
2           transferring data to or from the storage location if the count value does not  
3           equal the predetermined value; and  
4           disabling the transfer of data to or from the storage location if the count value  
5           equals the predetermined value.

1           37.    The method of claim 34, further comprising receiving with the memory a  
2           second address from outside of the memory while generating the first address.